

# Research Summary

## Truck Parking Investments for Missouri



Missouri's multimodal freight system is critical to the health of both the state and national economy, and as the economy and population grow, goods movement activity is expected to increase. This growing demand for goods will likely mean more trucks on the road, leading to a greater need to enhance the infrastructure necessary for trucks to improve safety for both truck drivers and the traveling public.

Access to safe and reliable truck parking is a key need for the trucking industry. Building on the findings of the Missouri State Freight & Rail Plan (SFRP)<sup>1</sup> and the 2022 Missouri Supply Chain Task Force<sup>2</sup>, the goal of this study is to outline recommendations for both near and long-term changes in the availability of truck parking within the state.

The truck parking demand analysis found that there are a total of 153 designated truck parking facilities in Missouri, of which 45 are public and 108 are private. Of the publicly owned sites, 26 are at or over capacity during the peak hour (between 2 a.m. and 3 a.m.), with the Wright City Rest Area on I-70 in Warren County having the largest gap of 20 spaces. This gap in truck parking demand and supply has had impacts on

roadway safety. Between 2017 and 2021 in Missouri, 1,813 crashes occurred which involved parked commercial motor vehicles (CMV) off the roadway, not due to congestion. These consisted of 13 fatal crashes, 266 injury crashes, and 1,534 property damage-only crashes.

These truck parking demand and safety factors were used to prioritize truck parking needs in Missouri. 18 public truck parking sites with high demand and collision factors, coupled with a MoDOT feasibility assessment, were selected for further analysis. The final prioritization score was used as a criteria for identifying public facilities and opportunity sites appropriate for further analysis. This process also included discussion and validation from MoDOT in order to develop a final list of locations for developing conceptual drawings and cost estimates needed to assess benefits and costs.

These 18 potential truck parking locations in Missouri were then prioritized based on their estimated benefits and costs. Benefits were summed and discounted for 20 years, and then were compared to the capital and maintenance costs of the projects. Project costs were estimated from a conceptual level engineering analysis. A benefit-cost ratio (BCR) analysis framework was used to identify the truck parking projects that generate the most benefits per investment costs. Investing in these prioritized

<sup>1</sup> <https://www.modot.org/2022-state-freight-and-rail-plan-documents>

<sup>2</sup> <https://www.modot.org/supplychaintaskforce>



projects would generate the greatest benefits to the trucking sector and society at large. The ranking by total BCR identified four “High” BCR effectiveness facilities (BCR over 3.0), eight “Medium” BCR effectiveness facilities (BCR equal or greater than 1 but less than 3), and six “Low” BCR effectiveness facilities (BCR less than 1.0).

*“Investing in these prioritized projects would generate the greatest benefits to the trucking sector and society at large.”*

MoDOT should continue to procure funding sources for truck parking investment. Given limited funding to develop all the facilities, the 12 with a BCR effectiveness score greater than one should be considered first. For the development of these sites, next steps will involve more detailed engineering and design assessments to further understand the local costs and impacts. The findings of this study reaffirm the need for increased funding for truck parking investment and the increase of truck parking capacity in Missouri.

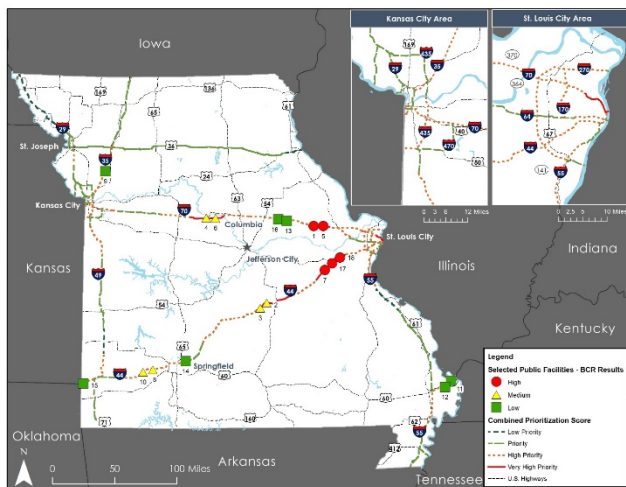


Figure 1. Benefit-cost ratio category for selected public facilities for prioritization.

### Project Information

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